UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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*Ex parte* KLEIN A. RODRIGUES

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Appeal 2006-2913
Application 10/072,402
Technology Center 1700

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Decided: September 12, 2006

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Before KIMLIN, TIMM, and JEFFREY T. SMITH, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 7-13 and 15-25. Claim 14 has been withdrawn from consideration. Claims 21 and 24 are illustrative:

21. A graft copolymer comprising:

a hydrophobic backbone moiety selected from the group consisting of natural polymers, linear hydrocarbons, branched hydrocarbons, and non-polymeric surfactants; and

an amine or amide moiety grafted onto the backbone moiety, the amine or amide moiety selected from the group consisting of methacrylates,

maleates, methacrylamides, vinyl esters, methallylics and itaconates having an amine or amide functionality,

wherein the graft copolymer is pH triggerable.

24. The graft copolymer of claim 23 wherein the non-polymeric surfactant is an alcohol ethoxylate.

The Examiner relies upon the following references in the rejections of the appealed claims:

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|---|---|---|
| Arfaei | US 4,960,465 | Oct. 2, 1990 |
| Rodrigues | US 6,291,594 | Sep. 18, 2001 |

Appellant's claimed invention is directed to a graft copolymer having a hydrophobic backbone and an amine or amide moiety grafted onto the backbone. The backbone is selected from the group consisting of natural polymers, linear hydrocarbons, branched hydrocarbons, and non-polymeric surfactants.

Appealed claims 7-12, 21, 23, and 24 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Arfaei. Claims 13, 15-20 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Arfaei. Claims 7-13 and 15-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rodrigues.

Appellant, with the exception of claim 24, has not advanced an argument in the principal Brief that is reasonably specific to particular claims on appeal. Accordingly, with the noted exception to claim 24, the claims rejected under Section 102 stand or fall together, as do the claims rejected separately under Section 103.

We consider first the Examiner's rejection of claims 7-12, 21, 23 and 24 under Section 102 over Arfaei. We concur with the Examiner that Arfaei describes

a graph copolymer within the scope of claim 21, i.e., a graph copolymer having a hydrophobic backbone selected from either linear hydrocarbons or branched hydrocarbons, and an amine moiety grafted onto the backbone. We are not persuaded by Appellant's argument that Arfaei does not teach the claimed hydrophobic backbone because every group in the polyether backbone of the reference must have the (-O-R-) repeating unit. Claim 21 on appeal does not preclude the presence of any such groups in the backbone, i.e., the broadly recited linear and branched hydrocarbons encompass repeating units of $-(CH_2-CH_2-O)$.

Appellant also maintains that "the amine groups in Arfaei are in the backbone [whereas] [i]n contrast, the amine groups in the present invention are in the grafted part or side chain of the molecule" (Br. 6, ¶2). However, as properly pointed out by the Examiner, Arfaei expressly teaches that amine functional groups may be grafted as a side chain on the polymer backbone (col. 2, l. 52 *et seq.*)

Regarding the Section 102 rejection of claim 24 which recites that "the non-polymeric surfactant is an alcohol ethoxylate," the dispute between the Examiner and Appellant concerning Arfaei's description of an alcohol ethoxylate is not germane to the claimed subject matter. Claim 24 does not require that the hydrophobic backbone of claim 21 is an alcohol ethoxylate. Rather, claim 24 only further limits one of the choices of the Markush group, i.e., non-polymeric surfactants, to an alcohol ethoxylate. Such a limiting of one of the recited species does not require that the hydrophobic backbone moiety be an alcohol ethoxylate. The backbone moiety may still be one of natural polymers, linear hydrocarbons, or branched hydrocarbons.

We will also sustain the Examiner's Section 103 rejection of all the appealed claims over Rodrigues. The sole argument advanced by Appellant with respect to the Section 103 rejection over Rodrigues is that "Rodrigues is like Arfaei in that it comprises a polyglycol backbone having an –(O-R)-repeating unit (col. 4, lines 25-35)" (Br. 8, ¶3). However, for the reasons set forth above, it is our view that claim 21 does not preclude graft copolymers having a polyglycol backbone. Furthermore, as explained by the Examiner, Rodrigues expressly discloses that "[t]he polyglycol can also be an alcohol ethoxylate" (col. 4, l. 14), the same species recited in claim 24 on appeal. We note that Appellant has not refuted this reference citation by the Examiner in the Reply Brief. Also, Rodrigues' disclosure that the polyglycol can be an alcohol ethoxylate undermines Appellant's argument that the polyglycol backbone of Arfaei cannot include an alcohol ethoxylate.

As a final point with respect to the Section 103 rejections, we note that Appellant bases no arguments upon objective evidence of nonobviousness, such as unexpected results.

In conclusion, based on the foregoing, the Examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

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ECK/hh